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ABSTRACT

Project Media Base reports its conclusions and recommendations for the establishment of bibliographic control of audiovisual resources as a part of an overall objective to plan, develop, and implement a nationwide network of library and information services. The purpose of this project was to test the hypothesis that the essential elements of a national bibliographic system for audiovisual informational resources currently exist, and that therefore there is no apparent impediment to a national system. On the assumption that the hypothesis was correct, the project also sought to define functional specifications for such an integrated system of audiovisual resources. The findings stipulate differences between nonprint and print media and their relative reduction to control; present the state of efforts to achieve standards; note the need for mutual cooperation and coordination of audiovisual resources; describe current barriers to a national network; and indicate the existence of essential network elements. Recommendations include the establishment of international liaison, promotion of established cataloging standards, further development of networking study proposals, the expansion of computerized control of audiovisual resources, the utilization of shared cataloging and vendor supplied descriptions, and the dissemination of information concerning current networking activities, their coverage, services, and use. (RAA)

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PROBLEMS IN BIBLIOGRAPHIC ACCESS TO NON-PRINT MATERIALS

PROJECT MEDIA BASE: FINAL REPORT

The views, opinions, and recommendations expressed in this report are those of the Study Project Authors and Task Advisory Committee and do not necessarily reflect official position or policy of the National Commission on Libraries and Information Science.

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H. Hitchens
Project Director
1978 December

PREFACE

The genesis of this project can be found in the study Resources and Bibliographic Support for a Nationwide Library Program undertaken for the National Commission on Libraries and Information Science (NCLIS) by Westat and published in August of 1974. That study recommended that a National Library Network be established, and that it be comprised of three coordinated systems: a Resource System, a Bibliographic System, and a Communications System. These recommendations were reviewed by a conference in April of 1975, called by NCLIS to review the study recommendations and identify next steps the Commission should take in implementing the study findings. Conference participants were divided into three groups to discuss, separately, the areas of monographs, serials, and "non-bibliocentric material." The conferees concluded that, while establishment of a serials center should probably receive highest priority, the problems of access to "non-bibliocentric materials" were also very important, but that further study on the nature and extent of the problem would be needed before solutions could be formulated.

Within the Association for Educational Communications and Technology (AECT), in the meantime, interest in networking had been stimulated by two sessions on machine-readable data bases for audiovisual resources presented during the AECT annual convention in Anaheim, California. Here, too, it was agreed that a network of audiovisual resources was desirable and that further study was needed.

A plan for such a study was prepared by a small group of AECT members, and submitted to the AECT. AECT approved the plan, but could not provide funds to support it in its entirety. It was decided to approach NCLIS for support, since NCLIS' commitment to the concept of a national network, as described in its widely distributed Program Document,(1) was well known. NCLIS agreed that the study had merit and fell within its scope, and a work plan and budget acceptable to both organizations was developed. An authors' group, consisting of Gerald Brong (Senior Author), George Abbott, James Brown, and Jenny Johnson, was formed and an advisory committee appointed. (Members of the Advisory Committee (TAC) are listed in Appendix E).

This report presents the background and findings of that study. Its specific focus is on the bibliographic control of audiovisual resources. The report discusses why such control is important, indicates the status of efforts to develop such control, and presents some requirements for the future.

The control of print media in libraries was felt to be outside the scope of the project and thus is not directly addressed in this initial study.

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(1) See its Toward a National Program for Library and Information Services: Goals for Action

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I

STATEMENT OF THE PROBLEM

The National Commission on Libraries and Information Science (NCLIS) has adopted the following ideal:

> "To eventually provide every individual in the United States with equal opportunity of access to that part of the total information resource which will satisfy the individual's educational, working, cultural and leisure-time needs and interests, regardless of the individual's location, social or physical condition or level of intellectual achievement."

This information resource exists in a variety of storage formats, of which audiovisual materials comprise a significant portion. The ability to access and utilize these audiovisual resources is thus an intrinsic component of the NCLIS ideal.

Within the library community, efforts to provide access have concentrated on the development of means to identify uniquely and to locate specific information units within organized collections of printed records, i.e., achieving bibliographic control. This emphasis results from the belief that effective access cannot be achieved without first establishing bibliographic control. Because this belief is broadly shared within the library community, progress toward this goal has been fairly substantial. A single cataloging code is almost

universally accepted, the MARC (MAchineReadable Cataloging) format is widely used, several computer-based cataloging systems are in operation and plans to interconnect them to form a national network are already in the design stage. Interestingly enough, document delivery--getting the desired item into the hands of the user--while an equally essential component of access, has not, to date, been given the same degree of attention by the library community.

Within the audiovisual community, on the other hand, the primary emphasis has been on effective utilization of material as an aid to learning. While bibliographic control exists within individual collections of audiovisual resources, concern with establishing control on a broader basis--across institutions, or in a network context--has not been widespread. Thus, a significant problem in developing improved access mechanisms within the audiovisual community lies in obtaining acceptance of the importance of bibliographic control.

In the absence of general recognition of the significance of bibliographic control beyond the institutional level, access mechanisms for individual collections and systems have tended to be developed independently of each other. This has resulted in a lack of agreement

on cataloging standards, costly duplication of effort and an almost total lack of coordination in system design. A second challenge then, lies in devising means for integrating these diverse and disparate systems into an effective network.

II

STUDY OBJECTIVES

In its report "Toward a National Program for Library and Information Services: Goals for Action," NCLIS has also stated as one of its objectives ". . . to plan, develop and implement a nationwide network of library and information services."

It should be understood that the envisioned nationwide network encompasses far more than a linkage of computer-held data bases. However, the achievement of bibliographic control is seen to be significantly enhanced by the utilization of automated networks that facilitate access to large bibliographic data bases.

Thus, to begin the process of seeking a means of establishing bibliographic control of audiovisual materials, the study team elected to concern itself primarily with existing machine readable data bases describing audiovisual resources: their number, their size, their characteristics, and their users.

The purpose of the Project Media Base was to test the hyphothesis, drawn up by the authors, that:

> There is ample evidence that all the essential elements for a national bibliographic system for audiovisual informational resources currently exists, and that there is, therefore, no apparent reason why a national system cannot be developed, operated, and fully utilized to provide access to these resources.

Further, on the assumption that the hypothesis was correct, Project Media Base sought to define the functional specifications for such an integrated system of audiovisual resources.

Project Media Base was expected to help "develop a plan for a flexible network of information services to meet the immediate and foreseeable information requirements of the greatest number of people."(2) Specifically, it would help the Commission reach its two major program objectives:

> "(1) to strengthen, develop, or create where needed, human and material resources which are supportive of high quality library and information services; and
>
> (2) to join together the library and information facilities in the country, through a common pattern of organization, uniform standards, and shared communications, to form a nationwide network."(3)

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(2), (3) The National Commission on Libraries and Information Science. Towards a National Program for Library and Information Services: Goals for Action. Washington, D.C., 1975. p. XI.

III

METHODOLGY

The study team addressed the problems through a combination of strategies. First, an historical survey was undertaken to trace the origin and development of bibliographic control of audiovisual resources and to relate the efforts involved to their counterparts in the non-audiovisual field.(4)

Second, an inventory was conducted of current operational systems that use automation to provide bibliographic control of, and access to, audiovisual resources. It was felt that such an inventory would be useful in providing a picture of present activity.

Third, several types of information-seeking activity were undertaken to help define user needs that should be accommodated in any system of audiovisual resource control.

Lastly, a list of functional specifications was identified, based on the data gathered from the latter two strategies.

Sections IV, V, and VI provide a more detailed description of each of the activities and a discussion of the findings.

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(4) For convenience of discussion, the terms "audiovisual resources" and "non-audiovisual resources" are used to distinguish between what traditionally has been referred to as "non-print" and "print" resources, since the traditional terminology is not totally accurate.

IV

HISTORICAL SURVEY

The introduction of audiovisual materials into libraries and schools has been a constantly expanding process since the beginning of the twentieth century, when the educational and information value of pictures, lantern slides, Victrola records and the like first gained acceptance. As new forms were invented and popularized they were added to existing library collections or were formed into separate collections. Problems in acquiring, organizing and servicing these materials resulted in either case.

In comparing systems for the bibliographic control of audiovisual resources with those for control of non-audiovisual resources, one should consider the fact that audiovisual resources are far fewer in number than non-audiovisual resources; they are still "young" when compared with non-audiovisual resources. It is also a fact that many major collections of audiovisual resources (and this includes most of the large circulating collections of motion pictures) exist separate and apart from traditional libraries. Many of the large rental film collections are associated with major academic institutions but are not part of that institution's library.(5)

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(5) The Consortium of University Film Centers is a grouping of such major film rental centers that has drawn together to further its purposes related to collection development, distribution of resources, and mutual support for the purposes of enhancing the availability of audiovisual resources as major informational resources.

While the first publication of standards related to the bibliographic control of audiovisual resources came from localized user groups (such as specific school districts, or the early efforts by the New York State Library, or Keen's Manual for high school library resource centers) the developmental activities generally took place under the auspices of national associations and higher education institutions. Frequently these activities were supported by federal government agencies through research and development grants.

In general, these local activities examined specific techniques relating to bibliographic control systems for audiovisual resources, and developed out of a need to solve specific problems. Many of these activities were undertaken as part of larger research or developmental projects. They were generally unrelated to each other and were oriented toward subject or content rather than toward format. Thus a number of similar, yet uncoordinated efforts were being conducted simultaneously. Upon completion, many of these test programs remained in operation to provide support services.

Even though there was significant activity at both the regional and national level there was little or no cohesiveness, leadership, or precise direction apparent in these activities. Moreover, the major role in these efforts was played by members of the library community in institutions of higher education and the nation's professional associations.

The late 1960's saw a sudden spurt of activity within these professional associations to form interest groups that held among their objectives the study of bibliographic control of audiovisual resources. The leadership in these interest groups, even in different associations, was often provided by the same individuals. Some progress in applying library science procedures to audiovisual resources was achieved through these efforts.

In the library community, the concern for bibliographic control of audio-visual materials was evident as early as 1922, when the H. W. Wilson Company published the Cataloging Rules with Explanations and Illustrations, which pointed out the need for compatibility of bibliographic records of audiovisual material with those for non-audiovisual resources. Prior to the publication of Rules for Descriptive Cataloging in the Library of Congress; Motion Pictures and Filmstrips, 1952, early bibliographic records for audiovisual materials tended to be phrased in the legal language necessary to the application for copyright. The 1952 rules served as the basis for the development of more conventional audiovisual cataloging procedures in the United States and Canada; they also had an extensive influence internationally. However, this thrust was again library-related, and not concerned with the utilizations of resources to effect learning. This librarian-oriented (vs. learner- or teacher-oriented) influence continues in present library approaches to cataloging audiovisual material.

The Library of Congress continued to foster, over the years, the development of bibliographic control rules for audiovisual resources. However, the ultimate beneficiary of these bibliographic standards, the local audiovisual librarian or practitioner, was seldom consulted in these activities.

The educational media community made a major contribution to the development and use of rules when the former Department of Audio visual Instructions of the National Education Association, now AECT, published Standards for Cataloging, Coding and Scheduling Educational Media and established its Cataloging Committee in 1968. This effort was followed by the publication of the Canadian Library Association (CLA), Nonbook Materials: The Organization of Integrated Collections, by Jean Riddle Weihs, et al., in 1973, and the formation of the Joint Advisory Committee on Nonbook Materials by AECT, ALA and CLA.

During the early 1970's, experiments in the audiovisual community focused on networks for the holders and users of audiovisual resources. Emphasis was given to improving utilization of these resources through innovations that facilitated interaction and linking between holders of material, rather than to achieving bibliographic integrity. As a result, many projects developed during this period did not follow the bibliographic standards commonly accepted in the library community. Since those non-standard systems that survived continue to meet local user needs, they are considered satisfactory by the audiovisual community.

In many cases, adherence to nationally observed standards is still not recognized, in the audiovisual community, to be an important means of improving information-sharing about audiovisual resources.

In comparing the systems for the bibliographic control of audiovisual resources with non-audiovisual resources it is evident that bibliographic systems for non-audiovisual resources exist and operate at much more sophisticated levels. The field of library science has evolved systems for the management of very large collections of resources and the records related to the resources in a given collection. Attention has also been given to the systems that provide for bibliographic control of audiovisual resources, especially as they are a part of library systems, but not to the same extent, and these systems are thus, less well developed.

Moreover, cooperation between audiovisual service units and holders of collections is very much less developed than in non-audiovisual programs. This pattern of finding the support systems for non-audiovisual resources more developed than those for audiovisual resources also extends to the processes of networking. The Library of Congress' MARC (MAchine Readable Cataloging) system, begun in 1966 as a pilot project, is a case in point. The system was first applied to monographs; the MARC format for the various forms of audiovisual material was issued several years later. As technology for information

dissemination advances and the number of informational units grows, the library community has begun to enlarge the systematic procedures for making information about audiovisual resources available. The view of a library as a resource and dissemination center for information in a variety of formats has resulted in new services, as well as in enhanced bibliographic control requirements and capabilities.

The accruing evidence is that despite the problems of learning to cooperate and use past experience, there is now definite momentum toward improvement of access to audiovisual materials in the audiovisual community. The combined forces of computer-based technologies and economic stringencies are beginning to have positive results, and a national audiovisual data base shortly may cease to be considered as merely desirable and, instead, be perceived as very necessary. The need for coordinated control and unimpeded access is recognized on every side, and the means exist to accomplish these goals.

The Chronology in Appendix A outlines events in the historical development of networking for audiovisual media. Those events may be categorized as follows:

Emergence of audiovisual materials as significant tools of instruction and sources of information

Involvement of commercial and non-commercial entities (including professional organizations and government agencies) in promoting access to audiovisual materials

Refinement of methods for bibliographic control (pre-and post-automation)

Technological advances in telecommunications and information handling

Specific applications of new technologies

Emphasis on cooperative means for facilitating access to information, and reducing duplication of effort

Recognition of the urgent need to resolve problems and coordinate plans, resulting in a variety of workshops, conferences, task forces, etc.

Financial support from public and private agencies which has made possible pilot projects and studies of the major applications of library automation and networking.

It is evident from the Chronology that history repeats itself, and the sponsors of each new endeavor are seldom aware of the efforts and accomplishments of their predecessors and their contemporaries. This is evidenced by repeated attempts, most of which reached the same conclusions, to survey the bibliographic needs of media specialists, and repeated efforts to establish bibliographic control standards. The Chronology also gives evidence that the need for cooperation has often been noted but seldom found workable.

Efforts such as Project Media Base do bring critical issues to the attention of a broader group of users but, inadvertently, state library and education agencies had very little involvement in this project. While Project Media Base may have been more successful than previous efforts in reaching the end user of systems, it nonetheless failed to

involve effectively local or regional coordinating bodies that could facilitate the integration of systems necessary to development of a nationwide network.

Nonetheless, the dynamics of authors' group and TAC interaction contributed significantly to mutual understanding among segments of the audiovisual community. The project provided media specialists, librarians, producers, indexers, bibliographic and data base experts, and users of audiovisual resources with the opportunity to open a dialogue to exchange mutual experience and concerns. The establishment of this dialogue may well be the most significant outcome of Project Media Base, since attempts to establish any national network system for audiovisual materials would certainly be futile without such interchange.

V

USER NEEDS ASSESSMENT

Project Media Base recognizes that any national network system for control of audio-visual materials must respond to actual user needs. The principal methods used in this study to determine those needs were:

a. Literature search (chiefly through the assistance of ERIC-IT at Stanford)

b. Open forums held during three national professional association conventions

c. Solicitation of responses to presentations by members of the Authors' Group and the Task Advisory Committee (TAC) before local or regional groups

d. Solicitation of response by mail to publicity

In addition, input obtained from the members of the TAC and the survey was also used.

In the Fall of 1976, the Authors' Group prepared a working paper based upon the experiences of its members as users and providers of media-related bibliographic information, the results of the literature search referred to above, and the conclusions drawn from two seminars held during the 1976 AECT annual convention.[6] The paper was then used to stimulate discussion at the following open forums:

1. American Society for Information Science (ASIS), San Francisco, October 5, 1976. Attended by approximately 100 school media and public library staff members, information specialists, and others.

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(6) One sponsored by the ERIC Clearinghouse on Information Resources (then at Stanford University) and the other by the Division of Information Systems, both held in conjunction with the 1976 national convention of the Association for Educational Communications and Technology (Anaheim, California, April, 1976.)

2. American Library Association (ALA) Midwinter Conference, Washington, D.C., January 31 - February 1, 1977. Two sessions attended by approximately 175 librarians and school media specialists.

3. Association for Educational Communications and Technology (AECT) Annual Convention, Miami, Florida, April, 1977. Attended by approximately 100 school and college instructional technology and library media specialists.

The Senior Author visited the following four locations to gain further information:

1. National Information Center for Educational Media (NICEM), University of Southern California, Los Angeles, California

2. Extension Media Center, University of California, Berkeley, California.

3. Learning Services Development Office of the California State University and Colleges, Los Angeles, California.

4. Ohio College Library Center (OCLC, Inc.) Columbus, Ohio.

The Senior Author also made the working paper available to the Association of Media Producers for discussion and consideration at one of its meetings. Publicity provided by NCLIS and AECT led to response from individuals not otherwise involved. Several Project members wrote articles or participated in local or regional meetings at which discussions about Project Media Base were held.

Obviously, user needs cannot be identified without a clear picture of the "user." Yet, unequivocal identification of the user of a hypothetical system is not possible. For the purpose of defining user

needs in this project, therefore, two assumptions were made by the authors, with concurrence from the TAC:

--a nationwide bibliographic network providing access to records about audio-visual resources would be developed; and

--the needs of the full range of users of audiovisual resources would be accommodated by the systems.

No effort was made, however, to distinguish between users of present systems and potential users of either present systems or the "network."

Within those parameters, two conclusions were drawn. The first was that the principal users of the network would be:

1. Users of the actual audio-visual resource--including teachers, students, independent learners, general library patrons, organizations, and others
2. Producers of audiovisual materials
3. Managers of audiovisual resource collections
4. Specialists who locate and procure such resources for others
5. Specialists who provide information about such resource for others.

Forum audiences differed with respect to opinions about principal users of the projected system. For example, at the AECT meeting, emphasis was upon teachers; ASIS attendees emphasized the general public; at ALA, professional staff needs appeared to receive the highest priority.

The second conclusion was that the principal (but not the only) uses of a nationwide audiovisual data base would be:

1. Reference

   a. Searching for information about items that exist pertaining to specific subjects, media, producers, sources, copyright information, creators, sources, production dates, grade-level suitabilities, and others.

   b. Verifying specific data, such as exact titles, running times, content, producers/creators, and other data, often needed preparatory to publishing catalogs or mediagraphies.

2. Collection Building

   a. Assessment i.e., making preliminary judgments regarding suitability of items considered for purchase, based on such factors as availability, content, format, production data, etc.

   b. Selection.

3. Acquisition

   a. For purchase.

   b. For rent.

4. Cataloging (subject and descriptive)

5. Processing (production of labels, booking and circulation cards).

6. Publication of checklists, catalogs, promotional literature.

7. Statistical support for collection management and for monitoring for gaps, redundancies, replacements, etc.

8. Production support including market analysis; determination of items already available; comparisons of formats, subject coverage, apparent redundancies, currency, gaps, and others.

Other user needs brought to the attention of the Project included the need for holdings statements, statements of physical condition of media, circulation and user data, and analytical item treatment as for example, scene analysis of films and analysis of music sound recordings.

In addition to the specific user needs cited above, other more general findings were made:

--A nationwide system for the bibliographic control of nonprint media is necessary. No one challenged the concept or refuted the need for it.

--There is lack of consensus regarding the need for, or suitability of, including in the system evaluative data about media resources themselves. However, there was support for citing sources of evaluative data for items in the system.

--There was no disagreement regarding the need for standardized cataloging rules as part of the system. Those familiar with only one set of conventions for such purposes usually favored the ones used. Those familiar with several sets of rules usually favored the Anglo-American Cataloging Rules (AACR).

--Considerable support was expressed for use of Library of Congress (LC) subject headings and for the MARC format for machine-readable access to bibliographic records.

Doubt was expressed, both at the forum sessions and at the TAC meetings, that any one system would be able to meet the needs of all people. A major difficulty in determining user needs lay in the lack of experience with a comprehensive system on the part of the users queried; they could not envision what they had not seen, and needs were thus expressed largely in terms of their own restricted experience. This lack of creative imagination would seem to be corroborated by the tendency of some computer-supported bibliographic systems to follow the traditional structure of catalog cards in their display format rather than to create alternative display formats utilizing the capabilities of the new technology.

VI

INVENTORY OF SYSTEMS

The need for an inventory of audiovisual indexing systems had been recognized before Project Media Base began.[7] Because of its suitability to the goals of the Project, the inventory was incorporated into the project activities. The specific purpose of the inventory was to collect information on systems in the United States and Canada and to assess the degree of similarity among them.

For the purpose of this survey, the term "system" was used to mean an automated activity involving the storage in a machine-readable data base of information about audiovisual materials, together with the ability to retrieve selected information through an automated query method. A copy of the instrument used is provided in Appendix B.

A survey form had been developed prior to the start of the project. With some modification based on Task Advisory Committee review, the form was distributed to approximately 200 institutions and individuals, beginning in December, 1976. Completed questionnaires were received from 43 systems. There was correspondence with an additional 15 systems. Analysis of the responses received has shown that some of the questions in the survey instrument were not appropriately developed. These problem areas are identified in the text that follows.

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(7) Initial steps to conduct a survey had been taken through the ASIS Special Interest Group on Non-print Media in early 1976.

Identification of existing systems was done through personal contact, announcement of the survey in selected library/information science journals, and at sessions held at national professional meetings.

Responses from the questionnaires have been compiled to indicate the number of titles in the data base, the types of information contained in the data base about each item, and some information about the collection of the resources themselves. An analysis of the relationship between system size and characteristics has been made and will be discussed.

From Table 1 it can be seen that most existing systems support relatively small collections--the total number of entries for the majority of systems surveyed is 5,000 or less. The total number of entries from all data bases is approximately one and one-half

TABLE 1

NUMBER OF AUDIOVISUAL TITLES IN DATA BASE
(Data from 41 of 43 Responses)

Number of Titles	Number of Systems	Percent of Systems
0-5,000	24	58.5
5,001-10,000	5	12.2
10,001-15,000	2	4.9
15,001-20,000	2	4.9
20,001 +	8	19.5
TOTALS	41	100.0%

million and, if the three largest systems are excluded, there are less than a half million entries in the systems surveyed. It should be noted that these figures represent all entries reported from all respondents and do not take into consideration the appearance of an entry in more than one data base.

The eight systems in the 20,000+ category include: 28,000; 31,000; 38,269; 42,000; 50,000; 229,553; 500,000, and 512,000 titles, respectively. This shows a wide range in the size of data bases. Dates of titles in the data bases range from the nineteenth century to the present with 46% including only current titles.

While it is assumed that the majority of systems represent "working records" of items held, it is also assumed that some systems are inputting data from MARC tapes even if the item represented by a record on the tape is not held in the system's collection. Thus, the number of entries listed should not be equated to number of items actually held.

A further breakdown of the under-5,000-items category, showing that fully 30% of the systems contained 2,000 or less items, is given in Table 2.

TABLE 2

NUMBER OF AUDIOVISUAL TITLES IN DATA BASES
SMALLER THAN 5,000
(Data from 41 of 43 Responses)

Number of Titles	Number of Systems	Percent of Systems
0-1,000	8	19.5
1,001-2,000	7	17.1
2,001-3,000	2	4.9
3,000-4,000	4	9.7
4,001-5,000	3	7.3
TOTALS	24	58.5%

During the mid- to late sixties, a few pioneering efforts were made in the establishment of audiovisual data bases. Notable among these is that of the National Information Center for Educational Media (NICEM), whose data base now contains over 500,000 records. However, since that time there has been a lack of development activity, and only in recent years has the increase in new systems been significant.

TABLE 3

STARTING DATE FOR SYSTEMS
(Data from 34 of 43 Returns)

Year Began	Number of Systems	Percentage of Systems
Pre-1970	5	14.7
1970	3	8.8
1971	2	5.9
1972	3	8.8
1973	5	14.7
1974	3	8.8
1975	6	17.7
1976	6	17.7
1977	1	2.9
TOTALS	34	100.0

Results show very few data bases limited to a specific subject area. AVLINE in the field of medicine and related areas was one of the few exceptions. Most systems were reported to be multi-disciplinary.

Various media formats are included in the collections represented by the bibliographic systems, with the most-represented medium, motion pictures, contained in 88% of the systems. The inclusion of various formats is shown in Table 4. It is important to note that these figures are only an indication of the format of the items included in the data base; they do not represent the relative number of titles in each format.

TABLE 4

TYPE OF MEDIA REPRESENTED BY RECORDS IN THE SURVEYED DATA BASES
(Data from 40 Systems)

Type of Media	Number of Systems In Which Included	Percentage of Systems
Motion picture	35	88
Video recording	31	78
Filmstrip	24	60
Slide	23	58
Kit	22	55
Sound recording	22	55
Transparency	17	43
Print	15	38
Game	14	35
Realia	13	33
Model	11	28
Two-dimensional representation	11	28
Chart	10	25
Map	10	25
Microscope slide	9	23
Flash card	8	20
Diorama	6	15
Machine-readable data file	1	3

From Table 4 it can be seen that of the systems reporting, 62% are audiovisual only, since 38% do not indicate including items in non-audiovisual formats.

The preceding tables have provided a general overview of the content of existing systems. Tables 5 to 8 and Figure 1 provide an analysis of the data organization methods used by these systems. Of the responses received, 53% use an existing standard cataloging code. The remainder use locally developed bibliographic systems specifically targeted to meet local needs.

In the use of subject headings, standardization is far less apparent, with 56% of the systems reporting use of other than Library of Congress or Sears subject headings.

TABLE 5

USE OF CATALOGING STANDARDS

Standards	Number of Respondents	Percentage of Respondents
Anglo-American Cataloging Rules (AACR)	17	38
Standards for Cataloging Non-Print Materials	8	18
Other	20	44

TABLE 6[8]

USE OF SUBJECT DESCRIPTOR LISTS

Subject List	Number of Respondents	Percentage of Respondents
Library of Congress	13	32
Sears	6	15
Other	23	56

The above tables display the fact that no single standard is used by all systems for providing bibliographic control. A slight majority (53%) subscribe to either AACR or AECT standards as a cataloging code. Many respondents indicated modifications were made, including some who reported using parts of both AACR and the AECT standards.

While only 53% of all systems surveyed use standard cataloging rules, a full 75% of the 16 systems that include both non-audiovisual and audiovisual materials use a standard. This would appear to indicate that standard cataloging rules are more frequently used in merged collections of audiovisual and non-audiovisual materials than in separate audiovisual collections.

Thirty percent of the systems were reported to be compatible with the MARC format. However, the degree of compatibility was impossible

(8) Some systems use both LC and Sears; therefore, percentages do not add up to 100%.

to determine from the responses. Only five of the systems use the MARC format itself. The fairly recent development of the MARC AV formats may account for lack of their widespread use. Similarly, the recent revision of Chapter 12 of AACR may explain lack of its widespread use.

A media code was reported used in 22 out of 43 systems, but only four use a common code, the AECT code.

A further comparison shows an increase in the use of bibliographic standards as the number of items in the collections represented incerases. This factor is illustrated in Figure 1 and Table 7 below.

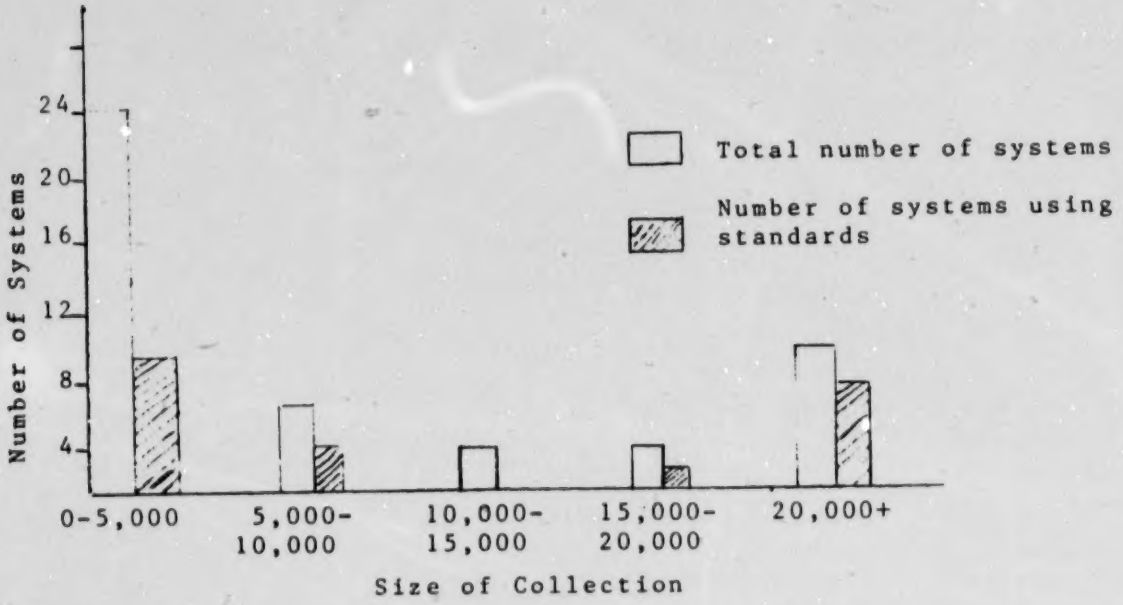

Figure 1. Use of Bibliographic Standards and System Size

TABLE 7

SIZE OF COLLECTION/USE OF STANDARDS

Size	% of Systems in Category	% of Systems Using Standards
0-5,000	58.5	37.5
5,001-10,000	12.2	40
10,001-15,000	4.9	0
15,001-20,000	4.9	50
20,001 +	19.5	75

Table 7 shows that 58.5%, or 24 of the systems, contain fewer than 5,000 titles, and a majority, 15 of these, do not use standard cataloging codes.

The survey has further shown certain data elements to be present in nearly all systems. The frequency of each element's appearance is shown in Table 8.

TABLE 8

FREQUENCY OF DATA ELEMENT'S APPEARANCE
(Data from 39 Systems)

Data Elements	%	Data Elements	%
Title	100	Date (copyright)	64.1
Subject	92.3	Language	61.5
Producer	84.6	Audience/grade level	61.5
Accession or call number	82	Location	51.2
Running time	79.4	Distributor (loan/rental)	48.7
Number of physical units	79.4	Price (sale)	43.5
Series	76.9	Media code	41
Summary	74.3	Producer address	33.3
Distributor (sale)	74.3	Distributor addresses	30.7
Size/format	71.7	Price (rental)	25.6
Author	66.6	LC card number	20.5
Date (release)	66.6	Evaluation	15.3

The attempt to determine which of these data elements were searchable was unsuccessful. It is obvious, however, that the one element contained in every data base is title. It should be noted that not all elements are applicable to all data bases. Elements such as rental price are applicable only to systems that provide rental services. Moreover, not all elements are applicable to all formats. For example, slides and transparencies do not have a running time. The desirability of including evaluative information, the least often cited element, generated the most discussion at the public forums.

Understandably, the least defined areas were related to users and user services. This is due, in part, to the questionnaire design and, in part, to the general lack of information concerning user needs and service options. Many respondents did not fully answer questions 16 through 20.

Many respondents checked more than one category under the question, availability of data base. Table 9 records each reporting system under the widest area of service listed. Although not included as a choice for the question, four respondents indicated making some services available internationally.

TABLE 9

AVAILABILITY OF SYSTEMS

System Availability	Number of Systems
In-house	25
Regional	3
State	3
National	8

The range of end users goes from none to 75,000. Some responses were reported in terms of number of installations using a system rather than number of end users. Systems reporting no users are those using a data base solely for the production of a printed product.

Thirty-two of the systems maintain either a printed subject/descriptor list or materials list.

Seventeen organizations indicated that they do not charge the primary users of their system; fourteen did not respond. The remainder listed a variety of charges. Only 16 systems provide for the request of the physical item through their system.

Of the 43 systems responding, seven were in school systems, 19 were in colleges and universities, and the remaining were in government agencies and commercial or nonprofit centers. Only one public library responded.

Several surveys of machine readable data bases already exist, including: Survey of ERIC Data Base Search Services, June 1976, prepared by Elizabeth Pugh, Jonathan D. Embry, and Wesley T. Brandhorst; Survey of Commercially Available Computer-readable Bibliographic Data Bases, 1972, prepared by the American Society for Information Science Special Interest Group/Selective Dissemination of Information; and Computer-Readable Bibliographic Data Bases: A Director and Data Source Book, 1976, prepared by Martha E. Williams and Sandra H. Rouse. However, they do not include the local in-house non-print data bases identified in the Project Media Base survey.

It had been hoped that the inventory would define a system population, locate operating systems, and identify the formats used in those systems. While the goal of identifying all existing systems has not been met, this inventory has established a core of data for future study. Some organizations did not respond and others, no doubt, were not located. However, we believe these systems data to be representative of the activities in the area of machine-readable bibliographic control of audiovisual materials.

In using the above data analysis, one should keep in mind that any review of existing capabilities is not of itself equivalent to needed capabilities. Historical aspects of design, based on

available knowledge and technology at the time a system was inaugurated, and design based on suggested user needs rather than actual research user needs, have shaped the character of many existing systems.

VII

FUNCTIONAL SPECIFICATIONS

Within the scope of this report, it is not possible to specify detailed functional specifications for as complex a system as would be needed to manage the audiovisual output of the United States. However, the following discussion provides a conceptual framework and some general guidelines for that objective.

Under ideal conditions a national data base of bibliographic records representing audiovisual resources might consist of a discrete machine-readable catalog record for each audiovisual resource now or ever in existence, housed in a single data base. This data base would be maintained by a single agency, which would provide a uniform and consistent but extensive access structure through the maintenance and application of requisite authority files. The content of the catalog records would be comprehensive enough to serve varying uses and many communities of users all over the country. The data base would be available to them through several modes ranging from instantaneous access in an on-line mode through an interactive process to listings provided off-line in response to individual search requests and special searches, to various printed products in macro- and microform.

Current reality is very different from this ideal. As the inventory showed, those audiovisual resources that are under some form of

bibliographic control are represented in many catalogs and data bases of varying forms, dispersed throughout the country. They are recorded in varying degrees of completeness, according to a less-than-uniform mixture of conventions for bibliographic control, and are serviced by a multitude of organizations ranging from the individual and local to varying cooperative endeavors at different levels, including local, state, regional, and national. These organizations are supported by the public, private, and not-for-profit sectors, or by multi-sector combinations.

Given this complex situation, how does one get "there" from "here"? No neat, "definitive" answer appears. One must develop an appropriate answer on the basis of a mixture of factors encompassing our present knowledge and the experience of several disciplines and technologies judiciously and imaginatively combined over an extended period of time and incorporating concepts, processes, and technologies that are in different stages of development. Much of this work, particularly in the area of network development, is being done in the library community by several groups. Many of these efforts are being coordinated by the Library of Congress Network Development Office (NDO) under the aegis of a Network Advisory Committee composed of several organizations, including the NCLIS.

Work to date on the National Library and Information Network suggests that, just as the circulation system in a human being provides a common but central link to and among the various parts of the body, so will the development of a framework of procedures, processes, and

technology serve as the means to draw together dispersed bibliographic data bases. This is not unlike the situation with respect to audiovisual resources, in which existing data bases are very much dispersed, but with the added difficulty that these resources are also dispersed among several communities, which may generally be catagorized as library and non-library. These communities have not always shared and do not yet share the same conventions for the control of, and access to, the materials in their care. Even so, much of the activity now going on to develop a National Library and Information Network has applicability to audiovisual resources, particularly those held within libraries and library-oriented organizations.(9)

That a national network is not yet in place, and that much of the requisite detail awaits the results of present and future work, does not prevent a statement, in broad outline, of some of the ingredients of a national data base of bibliographic records representing audiovisual resources, as part of a national bibliographic data base and

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(9) Much of the preliminary work in national bibliographic network development has taken place since Project Media Base began, and the results are reported in Toward a National Library and Information Service Network: The Library Bibliographic Component, prepared by the Library of Congress Network Advisory Group, edited by Henriette D. Avram and Lenore S. Maruyama, Washington, Library of Congress, June 1977, 54 p. The work of the Network Advisory Committee (formerly Network Advisory Group) and the Library of Congress Network Development Office merits close and continuing attention in any effort to provide bibliographic control of audiovisual resources at the national level. Acknowledgment is made to the Network Development Office and the information provided by its staff for much of the thrust of the present statement.

within the context of a national bibliographic network. Indeed, such an enterprise is a mixture of ingredients, entailing, among other things, a system of bibliographic control, a means of providing the outputs of such a system in a machine-readable form, and a mechanism for eventually linking the parts, using telecommunications within the framework of a national bibliographic network.

A system of bibliographic control comprises conventions for identifying and describing uniquely discrete items, as well as conventions for providing access to the store of bibliographic records. In the library community the conventions for describing an item and the provision of non-subject access (e.g., author, title, series, etc.) are referred to as descriptive cataloging; the provision of subject access is referred to as subject cataloging. Whatever the access, it is usually provided in a uniform, consistent form. The records relevant to a particular entity that created them constitute a data base, and the totality of those data bases presently in existence can be thought of as a national data store of records representing audiovisual resources. As long as these data bases are created and maintained as separate entities, they may exhibit whatever characteristics their creators judge relevant to the original purposes of their creation. However, once one begins to think of expanding their use within a wider context, for resource sharing or whatever, as part of the effort to create a national data base for audiovisual resources, the use of

standardized bibliographic conventions such as those exemplified in the Anglo-American Cataloging Rules, Library of Congress Subject Headings, Sears subject headings, etc., becomes a requisite. Without it, there is little or no possibility of eventual success in interchanging bibliographic information created by varying organizations in different locations.

The conversion and storage of bibliographic records in machine-readable form by any agency assumes a series of processes and procedures involving, among other things, (1) a format to carry in machine-readable form the bibliographic records formulated according to the conventions of the system of bibliographic control, (2) conventions and techniques (usually called content designators) for identifying the bibliographic information in a manner that permits the manipulation of the data by computer programs, and (3) a system to input, store, update, and output the information. Beyond the local level, however, to achieve compatibility among several systems requires further standardization for example, in the structure, content designators, and data content of the machine-readable records to be exchanged, as well as in the method of communicating them, i.e., computer network protocols. Much of the former type of standardization has been attained in the series of MARC (MAchine-Readable Cataloging) formats developed within the library community at the Library of Congress, and a draft proposal for one of the protocols is in press at this time.

If a national data base of audiovisual resources is to be an instrument for effective sharing, not only of bibliographic information, but of the actual materials themselves, it must incorporate information on the location of materials. One can conceive of a national union catalog of audiovisual resources as being a component file of a national data base. The location information might be part of a multi-tiered system that identifies regional locations in which an item is held, with more specific location information being held at regional centers, thus permitting successive refinement of a request for an item until the most convenient location is determined.

An important component of bibliographic control is the creation and maintenance of authority files. Authority files are the cataloger-created interface between the information with which users approach a file and the information in the bibliographic records that provides access to the materials being controlled. Authority files impose a consistency on the organization of information; they are used to control access points common to many bibliographic records. "An authority file alone or in conjunction with the bibliographic file is used as a means of verifying the form of an established heading, a source of information about related references associated with an established heading, and a bench mark for establishing a new heading that is compatible with the existing file."(10) The complexity of

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(10) Avram, Henriette D., "Introduction" in Buchinski, Edwin, Initial Considerations for National Data Base, Washington, Library of Congress, forthcoming.

the required authority files is magnified when applied to a multi-collection environment. In a union list of materials they become the normalizers of the access points, making it possible for diverse and geographically separated users to obtain maximum holdings information.

While the importance of authority files can be stated at this time, the specifics of such files within a national network remain to be determined. The same can be said for the communications system that draws together all the components comprising a national data base of audiovisual resources. Although the outlines are beginning to take shape, many of the pieces await further definition and development before they can be set in place. In the meantime, it is not too early to begin applying already known and defined standards in building data bases today that may form a part of the larger national data base of tomorrow.

The survey of data bases reported in Section VI confirmed the belief that coordination among data base developers is minimal. Unlike the non-audiovisual bibliographic data bases which, in large part, are built according to a single cataloging code (AACR) and follow a single machine-readable format (MARC), there is significant diversity in the content and structure of the audiovisual data bases covered in the survey.

Effectively linking such disparate systems as they now stand is not technologically feasible, economically reasonable or logically desirable. Towards the development of a nationwide system of access to audiovisual resources, the project attempted to develop a preliminary list of functions such a system should perform. The list of functional specifications could then be used as a guide both in modifications made to present systems toward their incorporation into a nationwide network, and in the design of yet-to-be built systems.

The project identified the following desirable characteristics of a nationwide audiovisual resource network:

--The system should utilize the MARC format

--It should be able to accept input from a variety of sources and systems

--It should be modular in design and be able to utilize currently available data

--The system should be built on a standard set of cataloging rules(11)

--The system should provide for data transmission among nodes; the responsibility for achieving compatability should be assumed by the nodes

--Library of Congress subject headings should be followed

--The system should allow on-line input and deletion of records--be interactive

--The casual public, as well as system subscribers, should be given access

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(11) While there was not disagreement regarding the desirability of standardized cataloging rules, there was not agreement on which to follow. Those familiar with only one set of conventions usually favored the one used; those familiar with several usually favored AACR.

--The capability to produce off-line bibliographic and management tools should be provided

--Accomodation of non-MARC elements should be provided

--The system should provide multiple access points including (but not limited to):

a. Exact title (and other title information)

b. General material designation

c. Creator (producer, author, etc.)

d. Availability (distributor, sale source, rental source, loan source)

e. Edition

f. Dates (production, release, copyright)

g. Ownership language (copyright holder, public domain status)

h. Series statement

i. Physical description (color, black and white, sound, silent, captions, etc.)

j. Intended audience (education level, restrictions)

k. Subject access

l. Evaluative and review date (source and date of review and evaluation)

m. International standard book number

n. Library of Congress card number

o. Record source

p. Price(s)

q. Summary

r. Notes.

--System characteristics should include:

--quality control

--adequate hours of access

--protection of file integrity

--ease of file maintenance

--provision for subfiles

--adequate indexing

--management and accounting system capability.

VIII

CONCLUSIONS

The study team reached five major conclusions:

1. The non-audiovisual, or library, community and the audiovisual community are different in a number of important ways. Many audiovisual resource collections have been established outside the organizational framework of the traditional library.

2. The library community has achieved more progress in achieving control of print media than has the audiovisual community in achieving control over non-print media. There exists general agreement in the library community on common conventions for subject and descriptive cataloging and a machine-readable record format which has, in turn, facilitated the formation of compatible systems capable of interconnecting to form networks. This is not true of the audiovisual community. Moreover, the library community, and the Library of Congress in particular, have been more active in striving for bibliographic control of audiovisual resources than has the audiovisual community itself.

3. Efforts to establish standards, coordinate activities and encourage cooperation among the several communities involved

with audio visual resources have not been productive to date. Yet if a nationwide network is to become a reality the need to do so becomes more critical as the separate efforts grow in size and complexity.

4. The lack of agreement on common conventions and the resultant disparity among data base structures are the major barriers to development of a nationwide network for audiovisual resources.

5. However, the essential elements of a national network system for control of and access to audiovisual resources do currently exist. It should not be necessary to invent new procedures just because the physical item represented by the record is audiovisual in nature rather than print. Yet whether a network for audiovisual resources can and should be integrated into existing non-audiovisual systems, or developed separately with linkages to the non-audiovisual network, is not clear.

IX

RECOMMENDATIONS

While certain of the recommendations made below fall within the purview of the NCLIS, the AECT, or similar professional organizations, others are directed toward practitioners in the field. The assignment of particular responsibility to any specific group or agency is not made.

More recommendations were made than are listed below, but not all were equally supported by the project participants, nor were the ones that follow unanimously supported. There was, however, general agreement that it be recommended that:

- --The Project Media Base report be disseminated widely in the library, audiovisual and related communities to provide current information to the affected communities and to generate support for its recommendations.
- --Liaison be established with the international community involved in similar effort and activity so that information can be shared to ensure the capability of future integration of systems here and abroad.
- --The use of established standards be promoted, especially the Anglo-American Cataloging Rules (AACR) and the MARC communications format.
- --The inventory of computerized systems for the control of audiovisual resources be expanded and continued as an on-going state-of-the-art project.
- --A proposal be developed and funding sought to provide for the study of (1) the means for integrating existing data bases of audiovisual resources towards the provision of network access to such resources; (2) management issues related to the effort; (3) cost-effectiveness of the project, and (4) the relationship of such a project to the network plans of the LC's Network Advisory Committee.

--An information dissemination capability be established, to provide for the collection and distribution of information regarding (1) current networking activity here and abroad; (2) user studies needed or undertaken; (3) the coverage and services provided by media systems, and (4) related items of relevance and interest to the audiovisual community.

--The concept and value of shared cataloging be encouraged and promoted in the audiovisual community.

--Producers and distributors be encouraged to provide complete and accurate bibliographic information, including applicable standard numbers, on the media unit itself.

--The practice be promoted of using the work itself, as opposed to secondary information, in preparing bibliographic descriptions of audiovisual resources.

--The recommendations in this report be considered in the forthcoming White House Conference on Library and Information Services, and in the state and territorial pre-White House Conferences.

APPENDIX A

CHRONOLOGY

APPENDIX A

CHRONOLOGY

The chronology which follows highlights events in the development of bibliographic and networking activities that are pertinent to the control of audiovisual materials. Any chronology of a topic is necessarily the skeleton of its history, and a disjointed one at that. Due to the limitations of the format it is difficult to show the interaction of events to produce a particular result, and it is equally difficult to single out or emphasize the most important events. Further, when several paths lead to a climax of some sort, it is hard to identify the events belonging to the particular paths. There is an almost inevitable result that trends become tangled and conclusions which should be obvious become obscured. In addition to these problems, there is the risk that some obscure event may be given attention, while another event of great importance is omitted.

This chronology could have begun with prehistoric cave paintings, traced the development of the alphabet, the invention of printing, the background of modern cataloging theory, and the invention of computers and the accessory technology. However, even a cursory search of the most obvious events and publications revealed a volume of material that would be impractical to attempt to cover. Suggestions were sought from the authors and the members of the Task Advisory Committee, state-of-the-art studies were reviewed, and from these sources the most frequently mentioned or apparently significant events were selected. In the interest of primary relevance, however, the remote background events were excluded and only those seeming to have direct or eventual bearing on the development of a national network system for audiovisual materials were included.

Despite the attempt to include only the most significant events, the reason for inclusion of some may seem obscure. Usually such inclusions were necessary as background and support for later events of unquestioned importance. Brief explanatory comments were added to some entries in order to either justify their inclusion or clarify their significance. In some cases the exact beginning dates were difficult to determine, therefore errors of one or two years are possible.

The selection of publications to be included from extensive bibliographies was particularly difficult and may have resulted in serious omissions. Numerous locally produced catalog codes and commercially

supported selection aids were omitted intentionally. For those publications which have been through several editions and revisions, no attempt was made to include every issue, and while works are not cited in standard bibliographic form, sufficient information was included to provide accurate identification. Sources of information and quotations are not documented, but whenever possible statements were taken from committee reports and/or the publication being cited.

Frequently used abbreviations and acronyms are:

AACR	Anglo-American Cataloging Rules
AECT	Association for Educational Communications and Technology
ALA	American Library Association
BALLOTS	Bibliographic Automation of Large Library Operations using a Time-sharing System
CLR	Council on Library Resources
ISBD	International Standard Bibliographic Description
LC	Library of Congress
MARC	MAchine Readable Cataloging
NELINET	New England LIbrary NETwork
NICEM	National Information Center for Educational Media
OCLC	Ohio College Library Center; later OCLC, Inc.
USOE	United States Office of Education

1901 Library of Congress (LC) initiated sale of catalog cards for books, thus promoting the distribution of standardized bibliographic information.

1918 American Library Association (ALA) Education Committee adopted a committee report of the North Central Association of Secondary Schools and Colleges specifying provision for lantern slides, Victrola records, etc., in high school libraries.

1923 National Education Association of the United States established the Department of Visual Instruction, predecessor of its Department of Audiovisual Instruction and the Association for Educational Communications and Technology.

1924 ALA Committee on Relationships Between Libraries and Moving Pictures was established by the ALA Council. This was the first of a long succession of ALA committees to concern itself with various aspects of access, use, distribution, production, and evaluation of audiovisual media. Films remained the principal focus for many years.

1934 ALA Visual Methods Committee recommended to the ALA Committee on National Planning that regional centers for visual aids be established and attached to existing libraries. The Committee on National Planning did not follow this recommendation, but did conclude that "libraries should assume responsibility for the preservation and use of visual materials and mechanical substitutes for the printed page."

1936 Publication of Educational Film Catalog by the H. W. Wilson Company began, continuing to 1962. Title changed to Educational Film Guide in 1945.

1940 Joint Committee on Educational Films and Libraries was formed with representatives from the American Film Center, Association of School Film Librarians, Motion Picture Project of the American Council on Education, and ALA.

1940 ALA Visual Methods Committee and Library Radio Broadcasting Committee merged to form the ALA Audiovisual Committee. One function was "to further the establishment of national and regional clearinghouses for such materials."

1943 Educational Film Library Association was formed as a clearinghouse for information about 16mm film utilization, selection, evaluation, production, and distribution.

1945 LC organized a Motion Picture Project which developed a questionnaire to determine the bibliographic control needs of the producers and users of films.

1946 U.S. Copyright Office drafted rules for cataloging films which were applied to motion pictures and filmstrips registered for copyright. The result was the Catalog of Copyright Entries: Motion Pictures and Filmstrips.

1948 LC published the Final Report on the Rules for Descriptive Cataloging in the Library of Congress, prepared by the ALA Committee on Descriptive Cataloging. It concluded that rather than "attempting to draw up one body of rules which can be applied to all types of materials. . .simplified rules for special materials should be included in the code."

1949 LC Descriptive Cataloging Division published Rules for Descriptive Cataloging in the Library of Congress. Rules for special materials, except maps, were not included as they had not yet been developed. Rules completed in following years were issued as supplements to this publication.

1950 ALA's Booklist began inclusion of films and filmstrips with full bibliographic information. This was subsequently suspended, then revived as interest increased. During 1969 and 1970 full coverage of audiovisual forms was permanently established.

1951 LC Film Cataloging Committee drafted cataloging rules for motion pictures and filmstrips based on those rules developed by the Copyright Office in 1946.

1951 Eastman House and the Film Council of America sponsored an International Film Cataloging Conference. LC was urged to issue catalog cards for new films being registered for copyright, and to publish the rules used by the Copyright Office. Film companies agreed to send information about their films to the Library on data sheets in order to speed up cataloging.

1951 LC began issuing printed catalog cards for motion pictures and filmstrips; (later expanded to include other materials for projection). From 1951 through April 1957, cards were printed for materials registered for copyright; thereafter only materials added to the collection or for which data forms were received from producing or distribution agencies were included.

1952 -65 LC published successive editions of supplements to its Rules for Descriptive Cataloging in the Library of Congress under the following subtitles: Motion Pictures and Filmstrips, Phonorecords, Pictures, Designs and Other Two-Dimensional Representations.

1953 UNESCO sponsored meetings in the United Kingdom and Washington, D.C., to promote international standards for film cataloging. The conference in Washington recommended that the rules of LC and the British Film Institute form the basis for world-wide standards for descriptive cataloging. The UNESCO Secretariat was to study the recommendations and attempt to develop internationally acceptable standards.

1953 LC began issuing printed catalog cards for phonorecords.

1953 Library of Congress Author Catalog, 1948-52 included music and phonorecords, and data for motion pictures and filmstrips were included in a separate volume. Works cataloged since 1952 have been included in separate volume(s) of the quarterly, annual, and quinquennial issues; presently under the title Library of Congress Catalogs: Films and Other Materials for Projection; and Music, Books on Music, and Sound Recordings.

1955 Eunice Keen issued a revised edition of her Manual for Use in the Cataloging and Classification of Audio-Visual Materials for a High School Library, updating the preliminary edition of 1949. This early attempt to systematize cataloging of audiovisual materials was begun under the guidance of Jesse Shera.

1956 Council on Library Resources (CLR) was founded "to aid in the solution of library problems; to conduct research in, develop and demonstrate new techniques and methods and to disseminate through any means the results thereof." Since its origin CLR has provided full or partial funding for many projects relating to access to library materials, with emphasis on computer applications and cooperative efforts.

1957 ALA Special Committee on the Bibliographic Control of Audiovisual Materials reported the results of its survey, emphasizing the need for standardized cataloging rules, better coverage by LC cataloging, better subject headings for audiovisual materials, and research on how catalog users approach audiovisual materials in the catalog. One respondent suggested that "it would be helpful if the producer put the information needed for cataloging on the label on the film container."

1958 ALA published Code for Cataloging Music and Phonorecords, which was prepared by the Joint Committee on Music Cataloging of the Music Library Association and the ALA Division of Cataloging and Classification.

1959 Margaret I. Rufsvold and Carolyn Guss conducted a study "to determine a feasible method of establishing bibliographic control of education audiovisual materials and their educational utility." A national catalog of audiovisual materials was proposed, resulting in the Educational Media Index in 1964.

1960 Educational Media Council was formed in recognition of the need for coordinated efforts among professional, governmental, and industrial organizations in the educational media field.

1961 Cataloging experts meeting at the International Conference on Cataloging Principles agreed on a "Statement of Principles," upon which the first and second editions of the Anglo-American Cataloging Rules were based. The word "book" in the statement was interpreted to "include other library materials having similar characteristics."

1962 University of Southern California began an automated cataloging project using a computer to generate catalogs for educational film libraries. This led to development of the National Information Center for Educational Media (NICEM).

1963 Project MAC (Machine-Aided Cognition, Man and Computer, Multiple-Access Computers) was organized at Massachusetts Institute of Technology for the development of computer systems for direct and economical access through the Compatible Time-Sharing System. The essential idea was the use of the computer as a public utility, capable of benefiting a wide range of consumers.

1963 LC published Automation and the Library of Congress, a survey sponsored by CLR. It concluded that "automation of bibliographic processing, catalog searching, and document retrieval is technically feasible in large research libraries," and recommended funding "devoted to securing system specifications for the automation of the internal operations of the Library of Congress and the functions it performs for other libraries."

1964 Educational Media Council's Educational Media Index was published by McGraw-Hill. This fourteen volume work was planned as a complete resource guide for all media, but was not continued after the first edition.

1964-67 Recognition of need for cooperation and computer-based regional technical processes by New England state university librarians led to CLR funding of a pilot project under the sponsorship of the New England Board of Higher Education, and the formation of the New England Library Information Network (NELINET). Establishment of other regional networks throughout the country followed.

1965 CLR published The Recording of Library of Congress Bibliographic Data in Machine Form, by Lawrence F. Buckland, a study of the feasibility of converting bibliographic data on LC cards to machine-readable form for the purpose of printing bibliographic products by computer, and distribution of bibliographic data to other libraries.

1966 ALA Council approved the formation of the Information Science and Automation Division, which has played an important role in promoting library automation and networking. An Audio-visual Section and a Video and Cable Communications Section were subsequently established.

1966-68 The MARC (MAchine Readable Cataloging) Pilot Project was initiated at LC. Working from the preliminary findings of the Buckland report, it was designed to demonstrate the feasibility and utility of making LC cataloging data available to other libraries in machine-readable form. CLR provided funding.

1966 NICEM began to build a comprehensive data base of bibliographic information for nonprint materials.

1967 NICEM and LC began cooperative use of data sheets obtained from producers, media centers, and others to catalog motion pictures and filmstrips.

1967 Work began at Stanford University on the development of an on-line interactive technical services support system using a time-sharing computer. Subsequently the system became operational as BALLOTS (Bibliographic Automatic of Large Operations using a Time-sharing System).

1967 National Technical Information Service issued The Identification of Data Elements in Bibliographic Records, by Ann T. Curran, et al. The purpose was to supply background information to the Subcommittee on Machine Input Records (SC-2) of the American National Standards Institute Committee (Z-39), which would help them "in determining which data elements should be tagged (identified) in machine readable records." This was to lead to development of standards for the identification, representation, and recording of information by the Subcommittee.

1967 Ohio College Library Center (OCLC) was chartered by the State of Ohio and eventually developed into an interactive on-line bibliographic network utilizing MARC records from LC and user input. In 1977 the name was changed to OCLC, Inc., with changes in governance to include all users of the system.

1967 ALA published the Anglo-American Cataloging Rules, North American Text, (AACR) with Part III devoted to the specific rules for cataloging the principal forms of audiovisual materials. General rules for books and booklike materials were extended to audiovisual materials, unless "specifically contravened or modified."

1967 National Medical Audiovisual Center (formerly the Audio-visual Unit of the Communicable Disease Center) was established to produce and distribute audiovisual materials. Guides for cataloging, and for audiovisual center management were issued.

1968 LC began publishing guides (updated by addenda and periodically revised) called MARC Formats for Books, Maps, Music, Serials, Manuscripts, and Films. The latter covered motion pictures, filmstrips, and other pictorial media intended for projection.

1968 Association of College and Research Libraries, Audiovisual Committee issued Guidelines for Audiovisual Services in Academic Libraries.

1968 Audio-Visual Associates established MEDIAFILE, which is a data base of records in machine-readable form utilized for the publication of several media indexes, including The International Index to Multi-Media Information. On-line searching of the data base is possible.

1969 National Audiovisual Center was created to make audio-visual materials produced by the United States Government available for public use and to serve as the central clearing-house for all federal audiovisual materials.

1969 RECON (REtrospective CONversion) Pilot Project was initiated at LC to study the feasibility of conversion of LC bibliographic records to machine-readable form. Development and implementation of the format recognition process was an important achievement of the Project. Retrospective conversion of LC bibliographic records did not result.

1969 Project Intrex (Information Transfer Experiments) at Massachusetts Institute of Technology was developed to apply the technology for on-line interactive bibliographic systems and resource sharing through networking.

1969-70 A three week institute sponsored by USOE held on Systems and Standards for the Bibliographic Control of Media. Two additional meetings held prior to ALA in Chicago and AECT in Detroit in 1970. Papers of the Conferences were edited by Pearce Grove and Evelyn Clement, and published by ALA in 1972 under the title Bibliographic Control of Nonprint Media.

1970 National Commission on Libraries and Information Science (NCLIS) was established by the U.S. Congress to advise the Congress and the President on national library policy. It was to "give first priority in its planning effort to providing new and improved services that will be helpful to all libraries in the country and their users, at every level of society."

1970 ALA and USOE sponsored the Conference on Interlibrary Communications and Information Networks to examine every aspect of library networking and make recommendations for a plan of action and future implementation. The Conference called on the NCLIS to "devise as a matter of priority a comprehensive plan to facilitate the coordinated development of the nation's libraries, information centers, and other knowledge resources." Proceedings were published by ALA in 1971.

1970 Federal Communications Commission took a position regarding common carrier competition that permitted development of customized private line services and the capacity to interconnect to form a computer-based national network.

1970 R. R. Bowker began publishing significant guides and resource indexes in the audiovisual field, including: Audiovisual Market Place, Educational Media Year Book, Developing Multimedia Libraries, and the Consortium of University Centers-Bowker Educational Film Locator. Bowker's Bibliographic Information Publishing System (BIPS) was developed to form the basis for their computer-based publishing.

1971 American National Standards Institute published the American National Standard Format for Bibliographic Information Interchange on Magnetic Tape (ANSI Z39.2) which described "a generalized structure which can be used to transmit,

between systems, records describing all forms of materials capable of bibliographic descriptions as well as related records such as authority records for authors and subject headings."

1971 Non-book Materials: Their Bibliographic Control, a Proposed Computer System for Cataloguing of Audiovisual Materials in the United Kingdom, by Leslie A. Gilbert and Jan W. Wright was published by the National Council for Educational Technology (U.K.).

1971 Joint Advisory Committee on non-book materials was established to advise the authors of Nonbook Materials: The Organization of Integrated Collections on the content and format of the first edition. Representatives were from ALA, Canadian Library Association, AECT, Educational Media Association of Canada, and Canadian Association of Music Librarians. The function of the Committee was subsequently broadened to provide a forum for discussion among organizations on the international level, and it continued to advise the authors on revisions of the above-mentioned work.

1971 Consortium of University Film Centers (CUFC), a cooperative organization of universities maintaining 16mm film rental libraries was established. The Data Bank Committee worked toward raising the standards and systematizing the development and utilization of film cataloging information, resulting in the publication of the CUFC-Bowker Educational Film Locator in 1977.

1972 Following three years of computer-based cataloging services through Inforonics (based on MARC tapes), and a six month test project at Dartmouth College, NELINET signed an agreement for on-line cataloging through OCLC. Other regional networks subsequently contracted for services from OCLC.

1972 LC began inputting records for motion pictures, filmstrips, slide sets, and sets of transparencies in the MARC system. LC began distribution of machine-readable catalog records for these materials through its MARC Distribution Service. MARC records were used in preparing the first computer-produced catalog in LC entitled Films and Other Materials for Projection.

1973 *Canadian Library Association published Nonbook Materials: The Organization of Integrated Collections, 1st ed., by Jean Riddle Weihs, Shirley Lewis and Janet MacDonald. This work was particularly designed to facilitate the development of "omnimedia" catalogs.

1973 *National Council for Educational Technology and Library Association published Non-book Materials Cataloguing Rules, prepared by the Library Association's Media Cataloguing Rules Committee.

1974 "Nonprint Media Guidelines" developed by a task force funded by Baker & Taylor Company were published in Southeastern Librarian under the title "Nonprint Media Cataloging, Calssification, and Designation: Recommended Standards." Media designations and codes were adopted with slight modifications in AECT's Standards for Cataloging Nonprint Materials (1976).

1974 (COperative MARC (COMARC) pilot project was initiated to test the feasibility of augmenting LC's monograph MARC output with machine-readable records created by other libraries from printed LC cataloging copy. While the desirability of including non-print media records in the program was recognized, the project was terminated before this could become reality.

1974 Council for Computerized Library Networks (CCLN) was established to coordinate and determine network policy through which national and international computerized library networks could be built and administered.

1974 Joint Steering Committee for the Revision of AACR was formed to guide revision of the Rules and coordinate ideas of the committees representing the authors. Expansion and improvement of the rules for audiovisual media were among the goals of the revision.

1974 International Federation of Library Associations published the International Standard Bibliographic Description for Monographic Publications (ISBD (M). This was followed by preparation of a general ISBD and ISBD's for nonbook materials, maps and serials.

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*Accepted by the Joint Steering Committee on AACR as the basis for the revision of relevant chapters.

1974 ALA published a revision of AACR, Chapter 6, Separately Published Monographs in order to "incorporate the provisions of the International Standard Bibliographic Description (Monographs) into the text in regular cataloging rule form."

1975 *ALA published a revision of AACR, Chapter 12, Audiovisual Media and Special Instructional Materials, improving the rules for motion pictures and filmstrips, adding rules for media not previously covered, and incorporating rules for slides and transparencies from Chapter 15. Lacking a specific ISBD for audiovisual media, the authors "patterned the rules whenever possible after the standard for monographs."

1975 LC issued Addendum Number 5 to Films: A MARC Format, expanding coverage for the other audiovisual media incorporated in the revision of AACR, Chapter 12.

1975 NCLIS issued Toward a National Program for Library and Information Services: Goals for Action mandating equal opportunity of access to our knowledge resources, including audio and visual materials.

1975 ALA Audiovisual Committee, descendent of the ALA Committee on Relationships Between Libraries and Motion Pictures (1924) voted to abolish itself as audiovisual interests had become dispersed among numerous ALA committees and a central coordinating unit was no longer workable.

1975 Planning began to extend BALLOTS into a multi-library network, and all modules planned for Stanford University became operational.

1975 UNESCO issued a report by C. P. Ravilious of his worldwide survey of bibliographic treatment of audiovisual materials: A Survey of Existing Systems and Current Proposals for the Cataloguing and Description of Non-book Materials Collected by Libraries.

1976 *AECT published Standards for Cataloging Nonprint Materials, 4th ed., by Alma Tillin and William Quinly.

1976 NCLIS and AECT sponsored PROJECT: MEDIA BASE "to develop goals, objectives and functional specifications for the bibliographic control of nonprint media."

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*Accepted by the Joint Steering Committee on AACR as the basis for the revision of relevant chapters.

1976 Films Format: A Description of Fixed Field, Variable Fields, Indicators and Subfield Codes was issued by OCLC and inputting of materials covered by AACR Chapter 12 became possible.

1976 Office of the Special Assistant for Network Development was established at LC (name changed the Network Development Office in 1977) "to insure that the Library of Congress meet its responsibilities in regard to library bibliographic networking and to coordinate the planning activities leading toward the development of the library bibliographic component of the National Library and Information Service Network, in cooperation with other network-related organizations."

1976 Network Advisory Group was established by LC "to explore the requirements and the possibilities for increased cooperation among the components of the evolving system." The Group was also to advise the Librarian of Congress on LC's role in national networking. The name of the Group was changed to Library of Congress Network Advisory Committee in 1977.

1976 AVLINE (Audio Visuals on-LINE), a data base maintained by the National Library of Medicine containing references to audiovisual instructional materials in the health sciences, became operational.

1976 International Standard Book Number (ISBN) International Panel agreed at the request of AECT and the Consortium of University Film Centers that national agencies were authorized to supply numbers for nonbook materials and agreed to inform the International Organization for Standardization of these applications to nonbook materials.

1976 LC implemented the rules in AACR, Chapter 12, Revised, for those nonprint materials within the scope of its cataloging program.

1976 ERIC Clearinghouse on Information Resources published Nonprint Media Information Networking: Status and Potentials, the papers from a conference, edited by James W. Brown. Conference participants considered the feasibility and desirability of developing a system "capable of obtaining, storing, and selectively retrieving dependable qualitative (as well as technical or purely descriptive) data about specific nonprint media items."

1976 NICEM and Library of Congress revised data sheets used in cooperative program of cataloging to reflect revisions in rules in AACR, Chapter 12, Revised.

1976 NCLIS and the Institute for Computer Sciences and Technology of the National Bureau of Standards established and operated a task group to address the general problem of providing for the nationwide automated interchange of information among existing and planned library and information science networks.

1977 Library of Congress issued the preliminary edition of Toward a National Library and Information Service Network: The Library Bibliographic Component, prepared by the Library of Congress Network Adivsory Group.

1977 Network Technical Architecture Group was created, upon recommendation of the Network Advisory Group (LC), to design a national library network for bidirectional interlinking of bibliographic utilities for information sharing.

1977 Quarterly issues of the National Library of Medicine's Current Catalog began inclusion of items cataloged for the AVLINE data base, consisting of three parts: name section, subject section, and procurement section. Annual cumulations will be published separately from the Current Catalog.

1977 LC Network Advisory Committee (replacing the Network Advisory Group) was "established by the Librarian of Congress to advise him on various issues concerning the Library's role in the evolving national library and information service network proposed by the National Commission on Libraries and Information Science in its program document."

1977 Executive Board of the Resources and Technical Services Division of ALA approved the publication of the second edition of AACR. This edition includes detailed rules for the cataloging of nonprint materials, and will be implemented by LC in 1981. It incorporates the internationally approved ISBD's.

1977 National Film Board of Canada published A Plan for an Information/Distribution System for Canadian Audiovisual Products, describing a comprehensive computer-based system to encourage and facilitate use of audiovisual materials.

Principal Sources Used for the Chronology:

Avram, Henriette D. MARC, Its History and Implications. Washington, D.C., Library of Congress, 1975.

Brown, James W., ed. Nonprint Media Networking: Status and Potentials. Stanford, California, ERIC Clearinghouse on Information Resources, 1976.

Clement, Evelyn G. Audiovisual Concerns and Activities in the American Library Association, 1924-1975. PhD. Dissertation. Bloomington, Indiana, Indiana University, 1975.

Encyclopedia of Library and Information Science. New York, Marcel Dekker, 1968-.

Grove, Pearce S., and Clement, Evelyn G., eds. Bibliographic Control of Nonprint Media. Chicago, American Library Association, 1972.

These are sources other than the actual publications noted in the Chronology, most of which were actually examined.

APPENDIX B

INVENTORY SUMMARY

PROJECT: MEDIA BASE INVENTORY SUMMARY

1. NAME OF DATA BASE (INCLUDE ACRONYM, IF ANY)

2. ADDRESS

3. CONTACT PERSON _____ PHONE ( )

4. DATE DATA BASE WAS FIRST SEARCHABLE BY MACHINE 1964-1977

5. NUMBER OF TITLES IN THE DATA BASE 365 - 1,557,009

   NUMBER OF NONPRINT TITLES 100 - 512,000

6. UPDATE INFORMATION

   FREQUENCY

7 DAILY	5 QUARTERLY	5 OTHER (PLEASE SPECIFY)
9 WEEKLY	4 SEMI-ANNUALLY	
7 MONTHLY	4 ANNUALLY	

   AVERAGE NUMBER OF TOTAL TITLES PER UPDATE 15-5,000

   METHOD OF UPDATE (CHECK ALL THAT APPLY)

- 6 MARC TAPES
- 22 YOUR CENTER ONLY
- 11 CENTER THRU WRITTEN INPUT FORMS SUPPLIED BY USER
- 9 CENTER THRU TAPES, PUNCH CARDS OR OTHER MECHANICAL FORM SUPPLIED BY USER
- 5 ON-LINE BY USER
- 7 OTHER (PLEASE SPECIFY) _____

7. INCLUSIVE DATES OF ITEMS INDEXED IN THE DATA BASE

   FROM 1890 TO present

   ARE ENTRIES FOR RETROSPECTIVE (OLDER THAN 5 YEARS) TITLES ADDED TO THE DATA BASE? YES 31 NO 10

   ARE ENTRIES FOR TITLES DELETED? YES 29 NO 12

   CRITERIA FOR DELETION Out of date, lost, damaged, errors, duplication

8. FORMATS INCLUDED (CHECK ALL THAT APPLY)

- 15 PRINT (BOOKS, SERIALS, ETC.)
- 10 CHART
- 6 DIORAMA
- 24 FILMSTRIP
- 8 FLASH CARD
- 14 GAME
- 22 KIT
- 1 MACHINE-READABLE DATA FILE
- 10 MAP
- 9 MICROSCOPE SLIDE
- 11 MODEL
- 35 MOTION PICTURE
- 13 REALIA
- 23 SLIDE
- 22 SOUND RECORDING
- 17 TRANSPARENCY
- 11 TWO-DIMENSIONAL REPRESENTATION
- 31 VIDEO RECORDING
- ___ OTHER (PLEASE SPECIFY)

9. MAJOR SUBJECT DISCIPLINES INCLUDED, IF ANY:

CHECK IF MULTIDISCIPLINARY ☐

10. WHAT SET OF CATALOGING/INDEXING STANDARDS ARE USED?

- 17 ANGLO AMERICAN CATALOGING RULES
- 8 AECT STANDARDS FOR CATALOGING NONPRINT MATERIALS
- 1 CANADIAN LIBRARY ASSOCIATION. NONBOOK MATERIALS: THE ORGANIZATION OF INTEGRATED COLLECTIONS
- 19 OTHER (PLEASE SPECIFY)

11. ARE AUTHORITY FILES MAINTAINED FOR

20 NAME? 17 SERIES? 17 CORPORATIONS?

12. IS A STANDARD LIST OF SUBJECT/DESCRIPTOR TERMS USED?

- 13 LIBRARY OF CONGRESS
- 6 SEARS
- 23 OTHER (PLEASE SPECIFY)

13. IF MEDIA CODES (E.G. 'FS' FOR FILMSTRIP) ARE USED, WHAT STANDARD IS FOLLOWED?

14. IS FILE IN MARC* FORMAT? YES 5 NO 33

MARC* COMPATIBLE? YES 11 NO 27

*MACHINE READABLE CATALOGING FORMAT PREPARED BY THE LIBRARY OF CONGRESS

15. DATA ELEMENTS INCLUDED/SEARCHABLE (CHECK ALL THAT APPLY)

	INCLUDED	SEARCHABLE
AUTHOR	26	
TITLE	39	
PRODUCER	33	
DISTRIBUTOR (SALE)	29	
DISTRIBUTOR (LOAN/RENTAL)	19	
DATE (RELEASE)	26	
DATE (COPYRIGHT)	25	
NUMBER OF PHYSICAL UNITS	31	
RUNNING TIME	31	
SIZE/FORMAT	28	
LANGUAGE	24	
SERIES	30	
SUBJECT	36	
LOCATION	20	
PRICE (SALE)	17	
PRICE (RENTAL)	10	
PRODUCER ADDRESS	4	
DISTRIBUTOR ADDRESSES	12	
AUDIENCE/GRADE LEVEL	24	
SUMMARY	29	
EVALUATION	6	
MEDIA CODE	16	
LC CARD NUMBER	8	
ACCESSION OR CALL NUMBER	32	

16. AVAILABILITY OF DATA BASE

25 IN-HOUSE 3 REGIONAL 3 STATE ___ MULTI-STATE

8 NATIONAL ___ OTHER (PLEASE SPECIFY)

International 4

17. USER COMMUNITY (DESCRIBE THE PRIMARY USERS AND ANY USER RESTRICTIONS OF YOUR DATA BASE)

libraries, faculty, staff, students, for type setting only

AVERAGE NUMBER OF USERS ANNUALLY 1-12,000,000

HAVE ANY USER STUDIES BEEN CONDUCTED TO DETERMINE

7 NONPRINT DATA BASE FORMAT AND CONTENT
18 NEEDS OF YOUR USERS
5 USES MADE OF THE INFORMATION SUPPLIED TO YOUR USERS

PLEASE SEND A COPY OF ANY SUCH STUDIES, IF AVAILABLE.

18. SEARCH REQUEST OPTIONS

IS DATA BASE AVAILABLE ON-LINE? YES 15 NO 16

HOW MAY USERS REQUEST SEARCHES?

19 IN-PERSON 17 PHONE 18 MAIL 1 Telecopier

IF DATA BASE IS AVAILABLE THROUGH A SERVICE BUREAU, PLEASE LIST NAME OF THE BUREAU.

19. TYPE OF OUTPUT OF SEARCH RESULTS (CHECK ALL THAT APPLY)

16 CRT DISPLAY 6 COM (COMPUTER OUTPUT MICROFORM)
33 PRINT-OUT 6 OTHER (PLEASE SPECIFY)

20. ARE THERE PRINTED PRODUCTS RELATED TO YOUR DATA BASE?

SUBJECT TERM OR DESCRIPTOR LIST? YES 32 NO 6

MATERIALS LIST? YES 32 NO 5

IF YOU PRINT A MATERIALS LIST -
ARE MORE, THE SAME NUMBER, OR FEWER ENTRIES INCLUDED IN THE PRINTED LIST?_____

IS MORE, THE SAME AMOUNT, OR LESS INFORMATION ABOUT EACH ITEM INCLUDED IN THE PRINTED LIST?_____

LIST ANY OTHER PRINTED PRODUCTS.

21. CAN THE PHYSICAL ITEM, OR A REPRODUCTION, BE REQUESTED THRU THE SYSTEM

11 ON LOAN? 4 FOR PURCHASE?

22. CHARGES FOR USE

FEES FOR SEARCHES OF DATA BASE (INCLUDE ROYALTY, OFF-LINE PRINTING CHARGES. IF VARIABLE PRICE SCALES EXIST, PLEASE DESCRIBE)

SALE OF DATA BASE (TAPES)_____
LEASE OF DATA BASE (TAPES)_____

EXPLAIN ANY RESTRICTIONS.

23. TECHNICAL SPECS

ARE SEARCH PROGRAMS AVAILABLE? YES 13 NO 20

PROGRAMMING LANGUAGE USED

8 P/L 1
9 ASSEMBLER
23 OTHER (PLEASE SPECIFY)

TAPE INFORMATION

TRACKS	6 7	18 9			
DENSITY (BPI)	2 556	16 800	15 1600	___ OTHER_____	
LABELS PRESENT	13 YES	7 NO			
CODE	5 BCD	13 EBCDIC	4 ASCII	8 OTHER_____	

24. LIST ANY RELATED DATA BASE(S) WHICH YOURS IS COMPATABLE WITH OR A PART OF.

25. COMMENTS (USE REVERSE SIDE IF NEEDED)

NAME OF INDIVIDUAL FILLING OUT THIS FORM_____ _____DATE_____

PLEASE RETURN COMPLETED FORM TO: GEORGE L. ABBOTT
PROJECT: MEDIA BASE
B101 BIRD LIBRARY
SYRACUSE UNIVERSITY
SYRACUSE, NY 13210